## **AMENDMENTS TO THE CLAIMS**

- 1. (ORIGINAL) A method for modifying combustion in a combustion chamber of a 4-stroke internal combustion engine running under standard warm (non-starting) engine temperatures, the method comprising the step of briefly opening a combustion chamber valve sometime during a period spanning:
  - a. the latter half of the compression stroke, and
  - b. the first half of the power stroke.
- 2. **(ORIGINAL)** The method of claim 1 wherein the briefly opening of the combustion chamber valve effects an escape of no greater than approximately 15% of the mass of the combustion chamber contents.
- 3. (CANCELED)
- 4. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened two or more times during the period.
- 5. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened during the period of crankshaft rotation between:
  - a. 50 degrees before top dead center, and
  - b. 50 degrees after top dead center.

- 6. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened during the period of crankshaft rotation between:
  - a. 30 degrees before top dead center, and
  - b. 30 degrees after top dead center.
- 7. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened for no greater than approximately 7 degrees of crankshaft rotation.
- 8. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened for no greater than approximately 5 degrees of crankshaft rotation.
- 9. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened for no greater than approximately 3 degrees of crankshaft rotation.
- 10. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve which is briefly opened is an intake valve.
- 11. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein the combustion chamber valve is briefly opened at or substantially near the time of ignition.
- 12. (CURRENTLY AMENDED) The method of any of the foregoing claims claim 1 wherein multiple combustion chamber valves are briefly opened during the period.

- 13. **(ORIGINAL)** The method of claim 12 wherein at least some of the multiple combustion chamber valves are briefly opened during the period starting at different times.
- 14. (CURRENTLY AMENDED) The method of claim 12 or 13 wherein the multiple combustion chamber valves include an intake valve and an exhaust valve.
- 15. **(NEW)** A method for modifying combustion in a combustion chamber of a 4-stroke internal combustion engine running under standard warm (non-starting) engine temperatures, the method comprising the step of briefly opening a combustion chamber valve during a period extending over at least one of the compression stroke and the power stroke, with such brief opening effecting an escape of no more than approximately 15% of the mass of the combustion chamber contents.
- 16. **(NEW)** The method of claim 15 wherein the combustion chamber valve is briefly opened two or more times during the period.
- 17. **(NEW)** The method of claim 15 wherein the combustion chamber valve is briefly opened during the period of crankshaft rotation between:
  - a. 50 degrees before top dead center, and
  - b. 50 degrees after top dead center.
- 18. **(NEW)** The method of claim 15 wherein the combustion chamber valve is briefly opened during the period of crankshaft rotation between:
  - a. 30 degrees before top dead center, and
  - b. 30 degrees after top dead center.
- 19. **(NEW)** The method of claim 15 wherein the combustion chamber valve is briefly opened for no greater than approximately 7 degrees of crankshaft rotation.

- 20. **(NEW)** The method of claim 15 wherein the combustion chamber valve which is briefly opened is an intake valve.
- 21. **(NEW)** The method of claim 15 wherein the combustion chamber valve is briefly opened at or substantially near the time of ignition.
- 22. **(NEW)** The method of claim 15 wherein multiple combustion chamber valves are briefly opened during the period.
- 23. **(NEW)** The method of claim 22 wherein at least some of the multiple combustion chamber valves are briefly opened during the period starting at different times.
- 24. **(NEW)** The method of claim 22 wherein the multiple combustion chamber valves include an intake valve and an exhaust valve.